CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
81 HIGUERA. SUITE 200
SAN LUIS OBISPO, CALIFORNIA 93401-5427

42-AA-0011

ORDER NO. 94-32

WASTE DISCHARGE REQUIREMENTS
FOR
SANTA BARBARA COUNTY PUBLIC WORKS AND THE CHAMBERLIN TRUST
FOXEN CANYON CLASS III LANDFILL
SANTA BARBARA COUNTY

The California Regional Water Quality Control Board, Central Coast Region (hereafter Board), finds that:

1. The **County of Santa Barbara** (hereafter "Discharger") operates the **Foxen Canyon Class III Landfill** (hereafter "Landfill"). The Discharger leases 37.5 acres of land from the Chamberlin Trust (P.O. Box 218, Los Olivos, CA 93441) on which the Landfill is located.

2. The 23.4 acre Landfill is located within the Santa Ynez Subbasin approximately 2 miles north of the town of Los Olivos on Foxen Canyon Road, in Sections 10 and 15, Township 7N, Range 31W, San Bernardino Base & Meridian, as shown on **Attachment "A"** included as part of this Order.

3. These waste discharge requirements (Requirements) are being revised/updated to incorporate criteria currently applicable to solid waste disposal sites, particularly:

   a. criteria established in California Code of Regulations, Title 23, Division 3, Chapter 15 (Chapter 15), including Article 5, pertaining to landfill water quality monitoring and response programs, as amended July 1, 1991;

   b. criteria established in 40 CFR Parts 257 and 258, Solid Waste Facility Disposal Criteria, Final Rule (Known as "Subtitle D"), as promulgated October 9, 1991.

4. This Order revises/updates and replaces Board Order No. 86-71, adopted on May 2, 1986. Order No. 86-71 regulated all waste discharges to the Landfill. Implementation of applicable revised Article 5 monitoring requirements, various other pertinent landfill changes, and Federal (Subtitle D) landfill regulations, will bring the Landfill into compliance with current landfill requirements.

Physical Description

5. Land use within 1000 feet of the Landfill is for agricultural purposes.

6. The site is located at the southern end of the Coast Ranges geologic province within a structural block known as the Santa Maria Basin. Elevations (above mean sea level) at the site range from 940 feet at the Landfill toe to 1150 feet at the peaks of the Landfill boundary. The site is directly underlain by the Plio-Pleistocene Paso Robles Formation and alluvium. The Paso Robles Formation consists primarily of poorly sorted gravel, sand, and clay.

7. The soils underlying the Landfill have varying degrees of hydraulic conductivity depending upon the amounts of clay, sand and gravel present in the depositional bedding planes of the Paso Robles Formation. Emcon Southwest prepared the February 1992 Geologic Site Characterization report for the Landfill which identified six zones (zones A through F) in the Paso Robles Formation under the Landfill. Zone A and

subzone A-1 is immediately under the Landfill and consists of claystone, sandstone, siltstone and conglomerate. Zones A-1, C and E are low permeable clay stone units which act to restrict water movement between the water bearing B, D, and F Zones. Zones A, A-1, C and E reportedly have hydraulic conductivities ranging from $1x10^{-7}$ and $7.7x10^{-8}$. Zone D is reported to be the zone with the highest insitu hydraulic conductivities with range between 1.1 x 10^{-3} to 3.2x 10^{-3} cm/sec.

8. Several known active faults lie within 10 miles of the Foxen Canyon Landfill. They include the Los Alamos fault located 1 mile from the site, the Nacimiento fault located 9 miles from the site, the Santa Ynez fault located 8 miles from the site. The ground acceleration for the maximum probable earthquake, which is the earthquake that is likely to occur during a 100 year interval, was not reported. However, the maximum credible earthquake, which is the maximum earthquake that appears capable of occurring under the presently known geologic conditions was reported as 0.60g from an earthquake of magnitude 7.0 on the Richter scale produced on the active Los Alamos Fault.

Water Resources

9. The Landfill is not in the 100 year flood plain. The watershed surrounding the Landfill totals 44 acres. On-site drainage flows around the northern and southern slopes of the Landfill toward the east. Runoff from these two areas passes through culverts and reaches a confluence just east of the Landfill gate house. The water then drains through a culvert to Foxen Canyon Creek, which in turn drains into Alamo Pintado Creek approximately three miles south of the site. Alamo Pintado Creek flows south into the Santa Ynez River.

10. The Paso Robles Formation, the primary formation under and adjacent to the Landfill, is located in the Santa Ynez Upland Ground Water Basin. The Paso Robles Formation is estimated to have approximately 7.5 million acre feet of water in storage (La Freniere and French, 1977). The Formation is a primary source of drinking water in portions of Santa Barbara County.

11. Ground water at the site is encountered within the Paso Robles Formation at depths in excess of 225 feet. There exists localized perched zones at depths of 150 feet below ground surface within discrete layers of the Paso Robles Formation. Ground water generally flows towards the south and southeast, however inadequate information is currently available to accurately establish ground water gradient and flow direction under the Landfill.

12. Currently there are eight monitoring wells at the Landfill. Three of the wells, MW-1, MW-3, and MW-4 are used in the current Monitoring and Reporting Program 86-71. Four wells (MW-2, MW-5, MW-6 and MW-7) have been historically dry. Another well, MW-8, will be utilized for detection monitoring in the future. The Discharger has proposed, in Emcon's June 1992 Water Quality Monitoring and Financial Assurance Cost Estimate, replacement of MW-3 since it is screened across multiple zones of the Paso Robles Formation. The Discharger also proposed to install a monitoring well southeast of the Landfill which is screened in the alluvium. The locations of all existing monitoring wells are shown on **Attachment "C"** included as part of this Order.

13. Well MW-1 is located east of the Landfill approximately 250 feet west of Foxen Canyon Road. MW-1 is currently used as a source of water for dust control.

14. Previous quarterly monitoring reports and ground water investigations (Staal, Gardner & Dunne July 1990, Solid Waste Assessment Test, Emcon Southwest June 1992, Water Quality Program and Financial Assurance Cost Estimate) have indicated the possible presence of volatile organic compounds and semivolatile organic compounds in the ground water vadose zone samples. Presently, no confirmed release of contaminants from the landfill has been verified. The following table lists all the constituents detected in ground water monitoring samples:

Constituent	Well	Concentration (ug/l)	Date
Toluene	MW-3	1.0	10/89
Toluene	MW-4	3.0	10/89
Toluene	MW-4	1.0	12/89
Vinyl Chloride	MW-4	0.6	04/90
Dibutylphthalate	MW-3	1.0	06/89
Diethylphthalate	MW-3	7.0	06/89
Di-n-octylphthalate	MW-3	4.0	06/89
Tetrachloroethylene	MW-3	0.2	10/20/92
Benzene	MW-3	0.6	12/16/92
Benzene	MW-4	0.6	12/16/92
Toluene	MW-4	0.8	10/20/93

During the Solid Waste Assessment Test, borings from DH-1 and MW-4 where analyzed in the vadose zone for constituents of concern. Toluene was detected in MW-4 and DH-1 at 0.029 mg/kg and 0.023 mg/kg respectively. 1-2-Dichloroethene was reported at 0.006 mg/kg in DH-1.

15. The only production well known to exist within 1 mile of the Landfill is located approximately one mile south of the Landfill and is known as the Schoenfelder Well. The well is capped and its history and usage are unknown.

Beneficial Uses

16. The Water Quality Control Plan, Central Coast Basin (Basin Plan), was adopted by the Board on November 17, 1989, and approved by the State Water Resources Control Board on August 16, 1990. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of State Waters. This Order implements the water quality objectives stated in that Plan.

17. Present and anticipated beneficial uses of surface waters downgradient of the discharge include:

    a) domestic supply;
    b) industrial supply;
    c) water contact recreation;
    d) warm fresh-water habitat;
    e) agricultural supply;
    f) ground water recharge;
    g) wildlife habitat; and
    h) non-contact water recreation.

18. Present and anticipated beneficial uses of ground water in the vicinity of the discharge include domestic, agricultural and industrial supply.

Landfill Specifics

19. The Landfill is currently regulated by the Integrated Waste Management Board Solid Waste Facilities Permit No. 42-AA-0011.

20. The site receives approximately 80 tons per day of non-hazardous municipal solid waste. Waste disposal at the site is preformed by the cut and cover method. The Landfill has an estimated 120,000 tons of remaining capacity and will reach capacity in 1998.

21. The Landfill meets the criteria of the California Code of Regulations as stated in Chapter 15 for classification as a Class III landfill suitable to receive non-hazardous solid wastes. this Order implements the prescriptive standards and performance goals of Chapter 15, as adopted by the State Water Resources Control Board on October 18, 1984, and as amended on July 1, 1991.

22. Wastes containing greater than one percent (>1%) friable asbestos are classified as hazardous under California Code of Regulations, Title 22. Since such wastes do not pose a threat to water quality, Section 25143.7 of the Health and Safety Code permits its disposal in permitted landfills, providing waste discharge requirements specifically allow the discharge and the wastes are handled and disposed in accordance with other applicable State and Federal statutes and regulations.

23. Due to revisions of Article 5, of Chapter 15, the Discharger submitted a June 1992 Water Quality Program and Financial Assurance Cost Estimate to update waste discharge requirements for the Landfill, including a monitoring and reporting program. It includes proposals for an improved ground water detection monitoring program, surface and vadose zone monitoring programs and the establishment of a financial assurance instrument to cover expenses related to future corrective action costs.

24. On October 9, 1991, the Environmental Protection Agency (EPA) promulgated regulations pertaining to solid waste disposal facilities known as 40 CFR, Parts 257 and 258 Solid Waste Disposal Facility Criteria, Final Rule (also known as Subtitle D). California has received EPA authorization (became an "Approved" State) to implement the Federal Subtitle D regulations. The majority of the Subtitle D regulations for most municipal solid waste landfills became effective and self-implementing on October 9, 1993. The Subtitle D regulations establish minimum criteria for location, design, operation, clean-up, and closure for most municipal solid waste landfills. Subtitle D implementation/applicability is as follows:

    a. municipal solid waste landfills with Requirements that stopped receiving waste on or before October 9, 1991 are exempt from Subtitle D except for monitoring requirements and deed restrictions.

    b. municipal solid waste landfills that received waste on or after October 9, 1991, but stop prior to October 9, 1993, must meet only the final cover requirements specified in Section 258.60(a).

    c. Municipal solid waste landfills that received waste on or after October 9, 1993 must comply with all requirements of Subtitle D.

    However, EPA recently changed the effective date of the Subtitle D criteria for existing, smaller municipal solid waste landfills that (1) accept less than 100 tons per day; (2) are in a State that has submitted an application to EPA for approval of its permit program by October 9, 1993; and (3) are not on the Superfund National Priorities List. Further, ground water and corrective action requirements become effective prior to receipt of waste for new landfills; October 9, 1994 through October 9, 1996 for existing landfills and lateral expansions. Financial assurance requirements become effective April 9, 1995.

    This municipal solid waste landfill accepts less than 100 tons per day; is not on the Superfund National Priorities List; and is located in an approved State. Thus, the majority of the Subtitle D requirements for this Landfill will become effective and self-implementing on April 9, 1994 (except ground water monitoring requirements; and Subpart G, financial assurance requirements, which become effective October 9, 1994 and April 9, 1995, respectively).

25. Discharge of waste is a privilege, not a right, and authorization to discharge waste is conditioned upon the discharge complying with provisions of Division 7 of the California Water Code and with any more stringent limitations necessary to implement the Basin Plan, to protect beneficial uses, and to prevent nuisance. Compliance with this Order should assure conditions are met and mitigate any potential changes in water quality due to the project.

26. These Waste Discharge Requirements contain prohibitions, discharge specifications, water quality protection standards, and provisions intended to protect the environment by mitigating or avoiding impacts of the project on water quality. These Waste Discharge Requirements are for an existing facility and as are exempt from provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) in accordance with Title 14, California Code of Regulations, Chapter 3, Section 15301.

Board Dates

27. On **January 27, 1994**, the Board notified the Dischargers and interested agencies and persons of its intention to update the waste discharge requirements for the discharge and has provided them with a copy of the proposed order and an opportunity to submit written views and comments.

28. After considering all comments pertaining to this discharge during a public hearing on **April 8, 1994**, this Order was found consistent with the above findings.

IT IS HEREBY ORDERED pursuant to authority in Section 13263 of the California Water Code, the Santa Barbara County Public Works Department and Chamberlin Trust, their agents, successors, and assigns may discharge wastes at the Foxen Canyon Class III Landfill, providing compliance is maintained with the following:

[Throughout these requirements, footnotes are listed to indicate the source of requirements specified. Requirement footnotes are as follows:

a = California Code of Regulations, Title 23, Chapter 15
b = Basin Plan
c = CFR, Part 257 and 258 (Subtitle D)
d = California Water Code

(Requirements without footnotes are based on professional judgement.)

A. DISCHARGE PROHIBITIONS

General Prohibitions[a]

1. Discharge of waste to areas outside the designated disposal area, as specified in Attachment "B", is prohibited.

2. Discharge of solid wastes within the "currently permitted landfill area limits", where refuse placement has not occurred, is prohibited; unless a composite liner system, as described in Specification B.35. is provided.[c]

3. Discharge of hazardous waste, except for waste that is hazardous due only to its asbestos content, is prohibited. For the purposes of this Order, the terms hazardous waste is as defined in Chapter 15.[a]

4. Discharge of designated waste is prohibited except when the discharger demonstrates to the Executive Officer's satisfaction that waste constituents present a lower risk of water quality degradation than indicated by this classification. For the purpose of this order the term "designated waste" is defined in Chapter 15.[a]

5. Discharge of "liquid wastes" or "semi-solid wastes" (i.e., wastes containing less than 50 percent solids by weight), other than leachate and gas condensate as described in Discharge Specification B.7. and dewatered domestic sludge as described in Discharge Specification B.17., is prohibited. Exemptions to discharging wastes containing less than 50% solids by weight may be granted by the Executive Officer if the Discharger can demonstrate the discharge will not exceed the moisture-holding capacity of the Landfill, either initially or as a result of waste management operations, compaction, and/or settlement.[a]

6. Discharge of dewatered sewage or water treatment sludge, which contains less than 50% solids by weight to any Landfill areas, shall meet conditions identified in Discharge Specification B.17.[a]

7. Discharge of waste to ponded water from any source is prohibited.[a]

8. Ponding of liquids over solid wastes is prohibited.[a]

9. Discharge of leachate or gas condensate containing hazardous concentrations of constituents is prohibited.[a]

10. Discharge of wastes that would reduce or impair the integrity of containment structures is prohibited.[a]

11. Discharge of wastes which, if commingled with other wastes in the unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn:

    a. require a higher level of containment than provided by the Landfill,
    b. are restricted hazardous wastes, or
    c. impair the integrity of containment structures,

    is prohibited.[a]

12. Discharge of wastes within five (5) feet of the highest anticipated water table elevation, including the capillary fringe, is prohibited. If excavations encounter ground water or come within five (5) feet of ground water, native soil shall be replaced and compacted to satisfy this specification.[a]

13. Discharge of waste within 50 feet of the property line, 100 feet of surface waters, or 100 feet of domestic water supply wells is prohibited.

14. Discharge of solid or liquid waste or leachate to surface waters, drainageway(s), or ground water, is prohibited.

15. Discharge of solid or liquid waste containing free liquid or moisture in excess of the waste's moisture holding capacity is prohibited. Waste must pass the paint filter test to determine if free liquids are present.[a,c]

16. Discharge of waste solvents, dry cleaning fluids, paint sludge, pesticides, phenols, brine, and acid and alkaline solutions is prohibited.[a]

17. Discharge of oils or other liquid petroleum products is prohibited.

18. Discharge of chemical and biological warfare agents is prohibited.

19. Discharge of leachate or landfill gas condensate to any landfill is prohibited, unless:

    a. The landfill gas condensate or leachate is being returned to the landfill waste management unit that produced it; and

    b. The portion of the landfill to which these materials are discharged is equipped with a containment system as outlined in Specification B.35., below.[c]

B. DISCHARGE SPECIFICATIONS

General Specifications

1. The Discharger shall implement the attached **Monitoring and Reporting Program No. 94-32** (Program) to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Landfill, or any unreasonable impairment of beneficial uses associated with (caused by) discharges of waste to the Landfill.[a]

2. Discharge of waste shall not cause the concentration of any Constituent of Concern or Monitoring Parameter to exceed its respective background value in any monitored medium at any Monitoring Point assigned to Detection Monitoring pursuant to the current version of the Program.

3. Discharge of waste shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of pollution or nuisance to occur, as indicated by the most appropriate statistical [or non-statistical] data analysis method and retest method listed in the **Program, Part II.**[a,c]

4. Discharge of waste shall neither cause nor contribute to the pollution of ground water via the release of waste constituents in either liquid or gaseous phase.

5. Discharge of waste shall neither cause nor contribute to any surface water pollution or nuisance, including, but not limited to:

   a. floating, suspended, or deposited macroscopic particulate matter or foam;
   b. increases in bottom deposits or aquatic growth;
   c. an adverse change in temperature, turbidity, or apparent color beyond natural background levels;
   d. the creation or contribution of visible, floating, suspended, or deposited oil or other products of petroleum origin; or
   e. the introduction or increase in concentration of toxic or other pollutants/contaminants resulting in unreasonable impairment of beneficial uses of waters of the State.

6. The discharge of waste shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the Landfill if such waste constituents could migrate to waters of the State in either liquid of gaseous phase and cause a condition of pollution or nuisance.

7. With written approval of the Executive Officer, Water (including non-hazardous and non-designated leachate and gas condensate) used during disposal site operations shall be limited to the minimal amount necessary for dust control, construction (soil compaction), and vegetation establishment/irrigation purposes. The Discharger shall minimize infiltration of rain water, and prevent infiltration of leachate and gas condensate into areas containing refuse, except as allowed by Prohibition A.19.

8. Landfill operations shall not be a source of odor nuisance.

9. The discharger shall prevent formation of a habitat for carriers of pathogenic microorganisms.

10. The handling and disposal of asbestos containing wastes shall be in accordance with all applicable federal, state, and local statutes and regulations.

11. Ash wastes may be discharged in the Landfill only when chemical analyses demonstrate to the Executive Officer's satisfaction that the waste is non-hazardous.[a]

12. Wastes discharged in violation of these Requirements and after the adoption date of this Order, shall be removed and relocated.

13. All refuse material that is wind-blown outside the active Landfill area shall be collected regularly and disposed in the Landfill. If wind-blown litter becomes a continuing problem, a containment barrier (additional screens and/or fences) shall be constructed to prevent spreading of refuse.

14. The Discharger shall obtain and maintain a Regional Water Quality Control Board (Board) approved Financial Assurance Instrument (Instrument) to demonstrate financial responsibility for initiating and completing corrective action of all known or reasonably foreseeable releases from the Landfill until the end of the Post-Closure Maintenance Period, pursuant to Chapter 15 regulations. The Instrument shall be legally valid, binding and enforceable under State and Federal law.[a]

15. A program for periodic intake load-checking shall be maintained to ensure that 'hazardous waste,' 'designated waste' and 'radioactive waste' are not discharged at this Landfill.[a]

16. The Discharger shall operate the Landfill in conformance with the most recently Executive Officer approved Master Plan, except where the Plan conflict with this Order. In the event of conflict, this Order shall govern in cases where it is most restrictive. Any changes to the Plan that may affect compliance with this Order must be approved in writing by the Executive Officer.[a,d]

17. Discharge of dewatered sewage sludge or water treatment sludge to the Landfill shall meet all of the following criteria:

   a. Dewatered domestic sludge which is utilized beneficially as soil amendment to promote vegetation over intermediate or final cover may be allowed with written Executive Officer approval.

b. Sludge discharged into the Landfill shall be only to landfills equipped with a dendritic/blanket-type leachate collection and removal system (LCRS) or acceptable equivalent immediately above the liner. However, if the sludge contains greater than 50% solid by weight, an LCRS may not be required depending on site specific conditions and upon Executive Officer approval.[a]

c. A daily minimum solid waste-to-sludge ratio of 5 to 1 by weight shall be maintained to ensure co-disposal will not exceed the moisture-holding capacity of the nonhazardous solid waste.[a] The actual ratio required by the Regional Board shall be based on site-specific conditions.

d. Primary and mixtures of primary and secondary sludge shall contain at least 20 percent solids by weight.[a]

e. Secondary sewage sludge or water treatment sludge shall contain at least 15 percent solids by weight.[a]

18. Waste shall not be discharged to a wetland, as defined in 40 CFR Section 232.2(r), or to any portion thereof, unless the Discharger successfully completes all demonstrations pursuant to 40 CFR Section 258.12(a). Such demonstration is subject to approval of the Executive Officer.[c]

19. Refuse shall be covered daily by at least six inches of cover material or an alternative approved by the Executive Officer, if the alternative is allowed by the Local Enforcement Agency, and it meets Performance Standards of the California Code of Regulations, Title 14, Section 17683. Cover shall promote lateral runoff of rainfall away from the active disposal area. Upon Executive Officer approval, alternative daily cover materials may be utilized. Long-term alternatives to the daily cover requirements must satisfy the alternative daily cover Procedures and be approved by the California Integrated Waste Management Board.[a,b]

Wet Weather

20. By **October 1 of each year**, all necessary runoff diversion and erosion prevention measures shall be implemented. All necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the Landfill and to prevent surface drainage from contacting or percolating through wastes.[a]

21. All landfill surfaces and working faces shall be graded and operated to minimize rainfall infiltration into wastes, to prevent ponding of water, and to resist erosion. Positive drainage to divert rainfall runoff from areas containing waste shall be provided.[a]

22. Drainage ditches crossing over landfill areas shall be lined with material which provides an effective field permeability of 1.0 X 10-6 cm/sec or less. If material other than clay or synthetic is used, data must be provided to, and approved by, the Executive Officer. The drainage facilities shall be designed and constructed to accommodate anticipated precipitation and peak surface runoff flows from a 100-year, 24-hour event.

23. Water, collected in any storm water catchment basin or a site water treatment facility may be used over the landfill in minimum amounts necessary for dust-control, compaction, or irrigation of cover vegetation provided none of the water infiltrates past the root zones of vegetation or past a depth where effective evaporation can occur.

24. Waste containment barriers shall be maintained to ensure effectiveness.[a]

25. The Discharger shall monitor potential releases from the site related to surface water runoff by complying with all National Pollutant Discharge Elimination System Stormwater Monitoring Program requirements.

26. Storage facilities associated with precipitation and drainage control systems shall be emptied immediately following each storm, or otherwise managed, to maintain the design capacity of the system.[a]

27. A minimum of two feet of freeboard shall be maintained in all leachate containment ponds. Leachate ponds shall be designed to avoid overtopping as a result of seiches.[a]

28. If adequate soil cover material is not accessible during inclement weather, such material shall be stockpiled during favorable weather to ensure year-round compliance.[a]

29. Throughout the rainy season of each year, a minimum one (1) foot thick compacted soil cover designed and constructed to minimize percolation of precipitation through wastes, shall be maintained over the entire active Landfill. The soil cover shall be in-place by **October 1 of each year**. The only exception to this specification is the working face. The working face shall be confined to the smallest area practicable based on the anticipated quantity of waste discharged and required waste management facility operations. Landfill areas which have been provided an Executive Officer approved vegetative layer as of the adoption date of this Order, shall not be required to satisfy this requirement. Based on site specific conditions, the Executive Officer may require a thicker soil cover for any portion of the active Landfill prior to the rainy season.

30. By **October 1, of each year,** vegetation shall be planted and maintained over all Landfill slopes within the entire Landfill area to prevent erosion. Vegetation shall be selected to require a minimum of irrigation and maintenance and shall have a rooting depth not in excess of the vegetative layer thickness. Upon Executive Officer approval, non-hazardous sludge may be conditionally utilized as a soil amendment to promote vegetation. Upon written Executive Officer approval, non-hazardous sludge may be conditionally utilized as a soil amendment to promote vegetation. Soil amendments and fertilizers (including wastewater sludge) used to establish vegetation shall not exceed the vegetation's agronomic rates (i.e., annual nutrient needs), unless approved by the Executive Officer.

Design Criteria

31. Waste management units, containment structures, and drainage facilities shall be designed, constructed and maintained to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, overtopping, and damage due to natural disasters (e.g., floods with a predicted frequency of once in 100 years, the maximum probable earthquake, and severe wind storms).[a]

32. Waste management units, containment structures and drainage facilities shall be designed and constructed under the direct supervision of a California registered civil engineer or a certified engineering geologist, and shall be certified by that individual as meeting the prescriptive standards and performance goals of all state and federal landfill regulations including, but not limited to Chapter 15, Title 14 (of the California Code of Regulations) and 40 Code of Federal Regulations Parts 257 and 258, prior to waste discharge.[a,c]

33. All Landfill facilities shall be designed and constructed to minimize damage during the "maximum probable earthquake" to the graded foundation and to structures which control leachate, surface drainage, erosion, and gas. The operator must demonstrate that all containment structures, including liners, leachate collection and removal systems, and surface water control systems are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the Executive Officer that it has been placed in the operating record.

34. The Discharger shall ensure the integrity of the final slopes under both static and dynamic conditions considering seismic acceleration at least from the maximum possible earthquake. The slope of those portions of the fill which will be the final exterior surface shall be developed in accordance with California Code of Regulations, Title 14, Division 7, Chapter 3, Article 7.8 and Title 23, Division 3, Chapter 15, Subsection 2581, namely[a]:

a. All slopes shall have a minimum of one 15-foot wide bench for every 50 feet of vertical height.

b. Slopes shall not be steeper than a horizontal to vertical ratio of 1.75:1 (57%).

c. Slopes steeper than a horizontal to vertical ratio of 3:1 (33%) shall be supported by a slope stability analysis report approved by the Executive Officer.

d. Slopes with grades less than 3% require the approval of the Executive Officer.

35. Wastes shall not be discharged to areas outside the footprint area which had not received waste as of April 9, 1994, unless the discharge is to an area equipped with a containment system, which meets either a. or b. below:

a. A composite liner and a leachate collection and removal system. The liner must consist of two components[c]:

i. LOWER COMPONENT: A minimum two-foot layer of compacted soil with a hydraulic conductivity of no more than $1X10^{-7}$ cm/sec (0.1 feet/year); and

ii. UPPER COMPONENT: A minimum 40-mil flexible membrane liner or a minimum 60-mil high density polyethylene. The upper component must be installed in direct and uniform contact with the lower component; or

b. An engineered alternative design. Engineered alternative designs must satisfy the performance criteria in 40 Code of Federal Regulations, Section 258.40(a)(1) and (c), and satisfy the criteria for an engineered alternative to the above Prescriptive Design, as provided by Title 23, California Code of Regulations, Section 2510 (b), where the performance of the alternative composite liners' components, in combination, equal or exceed the waste containment capability of the Prescriptive Design.[c]

36. Permeability determinations shall be as specified in Article 4 of Chapter 15. Permeabilities specified for containment structures other than cover shall be relative to the fluids, including waste and leachate, to be contained. Permeabilities specified for cover shall be relative to water. Permeabilities shall be determined primarily by appropriate field test methods in accordance with civil engineering practice (sealed double ring infiltrometer test is required). The results of laboratory tests with both water and leachate, and field tests with water, shall be compared to evaluate how the field permeabilities will be affected by leachate. Appropriate compaction tests may be used in conjunction with laboratory permeability tests to determine field permeabilities as long as a reasonable number of field permeability tests are also conducted.[a]

37. Leachate collection and removal systems shall be installed immediately above the liner and shall be designed, constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the landfill.[a]

38. The leachate collection and removal system shall:

a. be designed and constructed to prevent the development of hydraulic head on the liner; and

b. convey to a sump, or other appropriate collection area, all leachate which reaches the liner. The depth of fluid in any collection sump shall be kept at the minimum needed to ensure efficient pump operation.[a]

Closure

39. Final Landfill configuration shall conform to the contours delineated in the most recent version of the Master Plan.

40. Areas at the final elevation of 1080 feet above mean sea level, shall be covered with final cover pursuant to Section 2581 of Chapter 15 including from bottom to top:[a,c]

a. at least a two foot foundation layer placed over waste;

b. (1) for landfills which have not been equipped with a Subtitle D composite liner system, a low permeability geomembrane or compacted clay with an in-place permeability no faster than 1x10-6 cm/sec, or no faster than the permeability of underlying natural geologic materials, which ever is less; or

(2) for landfills which have been equipped with a Subtitle D composite liner system, a low permeability geomembrane and compacted clay with an in-place permeability of $1x10^{-7}$ cm/sec, or no faster than the permeability of the underlying Subtitle D composite liner system; and

c. at least one foot of soil capable of supporting vegetation, resisting erosion, and protecting the underlying low permeability layer.

Hydraulic conductivity of a low-permeability soil layer shall be determined by both laboratory and in-place field testing. Permeability determinations for cover materials shall be as specified in Article 4 of Chapter 15 and shall be appended to the final closure and post-closure maintenance plan. Construction methods and quality assurance procedures shall be submitted to the Executive Officer, and shall insure all parts of the low-permeability layer meet the hydraulic conductivity and compaction requirements. The final cover shall be graded to a slope of at least 3%, but not more than 10% unless adequate erosion control measures are implemented and approved by the Executive Officer.

41. All landfill areas which have not reached final fill elevation, but will remain inactive over one-year, must be provided with an Executive Officer approved long-term intermediate cover. The thickness and permeability of the long-term intermediate cover shall be based primarily on site specific conditions including, but not limited to length of exposure time; volume of underlying material, permeability, thickness and composition of existing cover; amount of yearly rainfall; depth to ground water; beneficial uses of underlying ground water; site specific geologic and hydrogeologic conditions; and effectiveness of existing monitoring system.

42. The Discharger shall implement final closure activities as the site operation progresses (e.g., within 30 days after a particular landfill or portion of a landfill reaches final fill elevation, closure cover must be provided), in accordance with the most recently approved closure plan.[a] Units closed in accordance with a Closure Plan approved by the Executive Officer are not subject to future regulatory changes unless monitoring data indicate impairment of beneficial uses of ground water.[a]

43. All closed Landfills shall be provided with at least two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period. Cumulative waste subsidence and settlement of areas where final cover is installed, shall be documented in the annual report.[a]

44. Alternative intermediate and final cover designs may be considered for Executive Officer approval, if such designs provide equivalent reduction in infiltration and protection from wind and water erosion.[a,b]

45. Methane and other landfill gases shall be adequately vented, removed from the Landfill, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone. Discharger shall comply with gas control requirements pursuant to Title 14 regulations.[a]

Reporting

46. Discharger shall notify Board staff, within 24 hours by telephone and within seven days in writing, of any noncompliance potentially or actually endangering health or the environment. Any noncompliance which threatens the landfill's containment integrity shall be promptly corrected. Correction schedules are subject to the approval of the Executive Officer, except when delays will threaten the environment and/or the Landfill's integrity (i.e., emergency corrective measures). Corrections initiated prior to Executive Officer approval shall be so stated in the written report.

The written report shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times or anticipated duration; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. This provision includes, but is not limited to:

a. violation of a discharge prohibition;
b. violation of any treatment system's discharge limitation;
c. slope failure; and
d. leachate seep occurring on, or in proximity to, the Landfill.[a]

47. Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule, shall be submitted within 14 days following each scheduled date unless otherwise specified within the Order. If reporting noncompliance, the report shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance. A second report shall be submitted within 14 days of achieving full compliance.

48. Reports shall be submitted in advance of any planned changes in the permitted facility or in an activity which could potentially or actually result in noncompliance.

C. WATER QUALITY PROTECTION STANDARD

1. **Water Quality Protection Standard (WQPS or Standard).** The five parts of the Water Quality Protection Standard [Standard] are as follows:

   a. **Constituents of Concern.** The list of Constituents of Concern for:

      i. water-bearing media [i.e., ground water, surface water, and soil pore liquid]; consists of all constituents in Appendix II of 40 Code of Federal Regulations Part 258 in addition to Total Dissolved Solids, Sulfate, Carbonate, pH, and Chloride; and

      ii. for soil pore gas consists of all volatile organic compounds detectable via gas chromatography.

   Constituents of concern, and many other terms of Article 5 used in this Order, are defined in the latest version of the Monitoring and Reporting Program (Program), Part III.B., which is hereby incorporated by reference.

   b. **Concentration Limits.** For each Monitoring Point assigned to the Detection Monitoring Program [Program Part I.D.4.], the Concentration Limit for each Constituent of Concern [or Monitoring Parameter] shall be its background value as obtained during that Reporting Period [defined in Program Part III.B.], as follows:

      i. If 10% or more of the samples taken during a given Reporting Period from the Background Monitoring Points for a monitored medium exceed their respective Facility-Specific Method Detection Limit [MDL]" (see Program Part III.B.) for a given constituent, then the Concentration Limit for that medium and constituent shall consist of the mean [or median, as appropriate] and standard deviation [or other measure of central tendency, as appropriate] of all the background data obtained for that constituent from that medium during that Reporting Period; otherwise

      ii. the Concentration Limit for that medium and constituent shall be its MDL.

   c. **Monitoring Points and Background Monitoring Points for Detection Monitoring** shall be those listed in Program Part I.D.4. and shown on Attachment C.

   d. **Point of Compliance**. The Point of Compliance is the edge of the Landfill's permitted area (Existing Permit Limits) shown on Attachment B and extends vertically down through the uppermost aquifer.

e. Compliance Period. The Compliance Period is the number of years equal to the active life of the waste management unit (including any waste management unit activity prior to the adoption of the waste discharge requirements) plus the closure period. The Compliance Period is the minimum period of time during which the Discharger shall conduct a water quality monitoring program subsequent to a release. The estimated duration of the Compliance Period for this landfill is 29 years. Each time the Standard is broken (i.e., a release is discovered), the landfill begins a Compliance Period on the date the Board directs the Discharger to begin an Evaluation Monitoring Program. If the Discharger's Corrective Action Program has not achieved compliance with the Standard by the scheduled end of the Compliance Period, the Compliance Period is automatically extended until the landfill has been in continuous compliance for at least three consecutive years.

2. Monitoring Parameters for Detection Monitoring. The monitoring parameters for water and soil pore gas shall be selected to ensure early detection of a contaminant release. The monitoring parameters for detection monitoring are listed in Program Part I.D.2.

a. The Detection Monitoring Parameters for (ground water, surface water, perched zone, or soil-pore liquid) samples; and VOC_{water}, a composite parameter that encompasses a variety of constituents (VOC), include those listed in Program Part I.D.2.

b. The Detection Monitoring Parameters for soil pore gas samples; and VOC_{spg}, a composite parameter that encompasses a variety of gaseous-phase volatile organic compounds include those listed in Program Part I.D.2.

3. Additional Monitoring Points or Background Monitoring Points. By **November 1, 1994**, the Discharger shall, install any additional ground water, soil pore liquid, soil pore gas, or leachate monitoring devices required to fulfill the terms of any Discharge Monitoring Program issued by the Executive Officer.

4. Additional Requirements

a. The concentrations of indicator parameters or waste constituents in water passing through the "Detection" Points of Compliance shall not exceed the "water quality protection standard(s)" established pursuant to Monitoring and Reporting Program No. 94-32, which is attached and made part of this Order.

b. Discharge of waste shall not cause a "statistically significant" increase over background for any of the constituents of concern or monitoring parameters listed in Appendix I and II of Subtitle D.

c. Discharge of waste shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board.

d. Discharge of waste shall not cause concentrations of chemicals and radionuclides in underlying and downgradient ground water to exceed limits set forth in Title 22, Chapter 15, Articles 4 and 5 of the code.

e. Discharge of waste shall not adversely impact the quality of water in any aquifer.

f. Discharge of waste shall not cause ground water in downgradient wells to exceed the State Department of Health Services latest recommended Drinking Water Action Levels or Maximum Contaminant Levels.

D. PROVISIONS

General Provisions

1. Order No. 86-71 "Waste Discharge Requirements for Foxen Canyon Class III Landfill," adopted by the Board on May 2, 1986, is hereby rescinded.

2. The Discharger shall comply with "Monitoring and Reporting Program No. 94-32", as specified by the Executive Officer.

3. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to regulatory agency personnel and to facility operating personnel, who shall be familiar with its contents.

4. The Discharger shall comply with all other applicable provisions of Chapter 15 and Subtitle D that are not specifically referred to in this Order. If any applicable regulation requirements overlap or conflict in any manner, the most restrictive requirement shall govern in all cases, unless specifically stated otherwise in this Order, or as directed by the Executive Officer.

5. The Discharger shall maintain legible records of the volume and type of each waste discharged at each landfill and the manner and location of discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.[a]

6. The Discharger shall be responsible for accurate waste characterization, including determinations of whether or not wastes will be compatible with containment features or other wastes and whether or not wastes are required to be managed as hazardous wastes.[a]

7. A list of the general types of the more widely used names of hazardous-type wastes prohibited at this site shall be posted on a legible roadway sign at the entrance in both English and Spanish. The sign shall also state the locations of the nearest hazardous waste disposal sites and shall list penalties for illegal dumping. A specific list of Hazardous Wastes and other types of materials prohibited at this landfill shall be provided to commercial waste haulers that use this Landfill and shall be available to all other site users upon request.

8. The Regional Board considers the property owner and Discharger to have a continuing responsibility for correcting any problems which may arise in the future as a result of this waste discharge.

9. The landowner and the Discharger shall have a continuing responsibility to assure protection of usable waters, from discharged wastes and from gases and leachate generated by discharged waste, during the Landfills active life, closure, and post-closure maintenance periods and during subsequent use of the property for other purposes.

10. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the State Department of Water Resources with regard to the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this Order or with the Monitoring Program, as required by Sections 13750 through 13755 of the California Water Code.[d]

11. The Discharger shall notify the Board in writing of any proposed change in ownership or responsibility for construction or operation of the facility. This notification shall be given at least 90 days prior to the effective date of the change and shall be accompanied by an amended Report of Waste Discharge and any technical documents that are needed to demonstrate continued compliance with these Requirements. In the event of any change in ownership of this waste management facility, the Discharger shall notify the succeeding owner or operator, in writing, of the existence of this Order. A copy of that notification shall be sent to the Board. Notification to the Board shall also comply with Section 2590(c) of Chapter 15.[a]

12. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Board, and a statement indicating that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit

the request shall be considered a violation of Section 13264 of the Water Code (discharge without waste discharge requirements). Transfer shall be approved or disapproved in writing by the Executive Officer.[d]

13. Within 60 days after completing final closure of the Landfill,

    a. the owner or operator must record a notation on the deed to the Landfill facility property, or some other instrument that is normally examined during title search, and notify the Executive Officer that the notation has been recorded and a copy has been placed in the operating record.

    b. the notation on the deed must, in perpetuity, notify any potential purchaser of the property that:

        i. the land has been used as a landfill facility; and

        ii. its use is restricted pursuant to Subtitle D, section 258.61(c)(3).

        iii. Pursuant to Chapter 15, should the Discharger default in post-closure care, liability shifts to the new owner/operator.[a,c]

14. The Discharger shall submit to the Regional Board for approval an updated closure and post-closure maintenance plan (Closure Plan) by **January 30, 1995**. The Closure Plan shall include:

    a. a description of the final cover, designed in accordance with all applicable State and Federal regulations and the methods and procedures to be used to install the cover;

    b. an estimate of the largest area of the Landfill ever requiring a final cover at any time during the active life;

    c. an estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility; and

    d. a schedule for completing all activities necessary to satisfy all closure criteria as required by Chapter 15 and Subtitle D regulations;

    The Closure Plan shall be prepared by or under the supervision of a California registered civil engineer or certified engineering geologist. The Closure Plan shall be updated annually, and revisions submitted to the Board by January 30th of each year starting in 1996. The method, identified for each landfills' closure and protection of the quality of surface and ground waters, shall comply with waste discharge requirements established by the Regional Board. The Closure Plan report shall be consistent with all applicable State and Federal regulations, including Chapter 15 and Subtitle D.[a,c]

15. The Discharger shall notify the Board at least 180 days prior to beginning any partial or final landfill closure activities. The notice shall include a statement that all closure activities will conform to the most recently approved Closure Plan and that the Plan provides for closure in compliance with all applicable state and federal regulations. If there is no approved Closure Plan, the Discharger must submit a complete Closure Plan at least 240 days prior to beginning any Landfill closure activities.[a,b]

16. The Executive Officer may require partial and/or final closure of the Landfill regardless of whether the Landfill has reached final capacity laterally and/or vertically for the protection of water quality.[a]

17. The Discharger shall report all changes in usage of daily cover and performance standards within 10 days following the change.

18. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor, as appropriate, ground water, leachate from the landfill, the vadose zone, and surface waters per the current version of the Monitoring Program throughout the post-closure maintenance period.[a]

19. The post-closure maintenance period shall continue until the Board determines that remaining wastes in the Landfill will not threaten water quality.[a]

20. Discharger shall immediately notify the Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste containment facilities or of precipitation and drainage control structures.

21. At any time, the Discharger may file a written request (including appropriate supporting documents) with the Regional Board Executive Officer, proposing appropriate modifications to the Monitoring and Reporting Program. The request may address changes:

    a. to any statistical method, non-statistical method, or retest method used with a given constituent or parameter,

    b. to the manner of determining the background value for a constituent or parameter,

    c. to the method for displaying annual data plots,

    d. to the laboratory analytical method used to test for a given constituent or parameter,

    e. to the media being monitored [e.g., the addition of soil pore gas to the media being monitored],

    f. to the number or placement of Monitoring Points or Background Monitoring Points for a given monitored medium, or

    g. to any aspect of monitoring or QA/QC.

    After receiving and analyzing such a report, the Executive officer either shall reject the proposal for reasons listed, or shall incorporate it, along with any necessary changes, into the attached Monitoring and Reporting Program. The Discharger shall implement any changes in the Monitoring and Reporting Program proposed by the Regional Board Executive Officer upon receipt of a revised Monitoring and Reporting Program.

22. The Discharger shall submit a complete liner system design report for Executive Officer consideration of any new Landfill use and construction, at least 180 days prior to Landfill development. The design report shall adequately address any proposed deviation from the most currently approved fill sequencing plan. It must adequately address all applicable requirements of Chapter 15 and federal (Subtitle D) landfill regulations.[a]

23. Vertical expansions (i.e., additional refuse placement on top of existing unlined Landfills already containing refuse) above currently permitted final fill elevations (for this site, 1080 feet above mean sea level), as indicated in the most recently approved operations/master plan or Requirements, will not be permitted, unless The Discharger submits and the Executive Officer approves, a proposal demonstrating that additional refuse placed on top of existing unlined Landfills does not significantly increase the threat to water quality. The proposal shall adequately address:

    a. all siting criteria and engineering properties of underlying refuse,

    b. differential settlement, including the ability of the underlying waste to support the additional refuse and all effects of the additional refuse upon the underlying refuse.

    All proposal conclusions shall consider site specific conditions, including subsurface hydrogeologic factors, existing threat to water quality, any existing State Water's degradation as a result of Landfill waste discharges, beneficial uses of underlying and adjacent waters, size of the existing Landfill, remaining capacity, existing and proposed final fill elevations, financial feasibility, and any other relevant factors.

24. Prior to **September 1, 1994**, the Discharger shall submit a technical report addressing compliance with all terms of this Order. The report shall include an implementation schedule for all work required by this Order.

25. Except for data determined to be confidential under Section 13267 (b) of the California Water Code, all reports prepared in accordance with this Order shall be available for public inspection at the office of the Regional Board.[d]

26. All report shall be signed as follows:

    a. for a corporation; by a principal executive officer of at least the level of vice president;

    b. for a partnership or sole proprietorship; by a general partner or the proprietor, respectively;

    c. for a public agency; by either a principal executive officer or ranking elected official;

    d. their "duly authorized representative"; or,

    e. engineering reports; by a California registered engineer or certified engineering geologist.

27. Any person signing a report makes the following certification, whether its expressed or implied:

    "I certify under penalty of perjury I have personally examined and am familiar with the information submitted in this document and all attachments and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

28. The Discharger shall submit to the Executive Officer for review and approval a periodic load-checking program. The load checking program shall be adequately designed to ensure that "hazardous wastes" and "unauthorized designated wastes" are not discharged to the Landfill. The load checking program shall be submitted by **September 1, 1994**. The program shall include, but not be limited to:[a]

    a. number of random loads to be checked per month and/or year;

    b. training program for on-site personnel;

    c. record keeping and reporting program;

    d. program implementation schedule;

    e. alternatives for waste found to not be in compliance with these waste discharge requirements; and

    f. example of signs posted at the facility.

29. The Board will review this Order periodically and may revise these requirements when necessary.

30. The Discharger shall submit an updated/revised version of its Master Plan by **September 1, 1994**. The Master Plan must include detailed information regarding regulatory considerations; design, construction and operating provisions; environmental monitoring; and closure and postclosure. Additionally, the Master Plan shall:[a]

    a. include a Fill Sequencing Plan, including detailed maps. The Fill Sequencing Plan should describe in detail the overall development of the entire Landfill .

    b. include a detailed description of the lateral and vertical extent of refuse within the Landfill. It shall include an accurate estimate of the in-place waste volumes and an approximation of the remaining volume and years of capacity for the Landfill. It must also describe all existing available space within currently permitted Landfill areas (i.e., modules where refuse has been placed in the past, but have not reached final permitted elevation and modules or portions of modules where refuse has never been placed).

c. discuss any plans/proposals to close or partially close any modules or portions of modules, any proposed liner systems and respective design components, any proposed plans for long-term intermediate cover for Landfill areas which may remain inactive for long periods of time.

31. By **September 1, 1994**, the Discharger shall submit a "Report of Monitoring Feasibility" addressing the feasibility of soil pore gas and liquid monitoring, and expansion of ground water monitoring. The report shall include a workplan and time schedule for installing a monitoring system which includes "point of compliance" and "background" monitoring points for all monitored media potentially under the influence of the Landfill. If gas and/or water monitoring is infeasible at any "point of compliance" or "background" monitoring point, the report shall explain why. The monitoring program shall be consistent with Chapter 15 and Subtitle D.

32. The Discharger shall develop a long-term intermediate cover design for all Landfill areas which have not reached final fill elevation, but will remain inactive for over one year. Cover designs shall minimize percolation from precipitation and surface water flows. The proposed design shall be submitted by **September 1, 1994**, for Executive Officer approval. Executive Officer approval of the design will be based on site specific factors as described in Discharge Specification B.41.[a]

33. The Discharger shall submit a 'Wet Weather Preparedness Report' by **November 1, of each year.** The report must address, in detail, compliance with all wet weather preparedness related specifications (e.g., Discharge Specifications B.20., B.21., B.22., B.23., B.29., and B.30.) of this Order, and all other relevant Chapter 15 and Subtitle D criteria.

34. If the Discharger or the Regional Board determines, pursuant to Section 2550.8(g) or (i), that there is evidence of a new release from any portion of the Landfill, the Discharger shall immediately implement the procedures outlined in Program, Part III.D.2.d..

35. The County of Santa Barbara (i.e., by adoption of a Resolution) shall appropriate $188,000 dollars to a Financial Assurance Instrument (Instrument) to cover the estimated Article 5 costs to initiate and complete corrective action of the "worse case" reasonably foreseeable release. The total appropriated amount is presented in the support document for the June 1992 Water Quality Monitoring and Financial Assurance Cost Estimate. The total costs include: $140,000 to cover corrective action program costs; and $11,000 to cover annual testing, operation and maintenance costs. $37,000 to cover final program costs; The Discharger shall submit a report every five years that either validates the Instrument's ongoing viability or proposes and substantiates any needed changes.[a,c]

    REPORT DUE DATES: The report is due **November 1, 1994**, and **every five years** thereafter.

36. By **September 1, 1994** the Discharger shall submit a signed original Financial Assurance Instrument for corrective actions as outlined in Provision D.37., above, for Executive Officer review and approval.

37. A complete liquid mass balance shall be performed for all Units and drainage facilities based on Chapter 15 prescriptive design parameters, and shall be submitted to the Board by **September 1, 1994.**

38. Pursuant to the California Code of Regulations, Title 23, Chapter 15, Article 9, the Discharger must submit a technical report to the Executive Officer not later than **October 1, 1998** which:

    a. Discusses whether there has been or will be changes in the continuity, character, location, or volume of the discharge;

    b. Discusses any proposed expansions (lateral and/or vertical expansions within and/or outside currently permitted landfill boundaries) or closure plans, including detailed information of the quality and quantity of waste discharged and the anticipated impact upon water quality and Landfill operations;

    c. Discusses whether, in their opinion, there is any portion of the Order that is incorrect, obsolete, or otherwise in need of revision;

    d. Addresses all other applicable sections of Article 9, Chapter 15 (e.g., update of the Landfill's Development and Operations Plan, etc.,); and

    e. Includes any other technical documents needed to demonstrate continued compliance with this Order and all pertinent state and federal requirements.[a]

39. Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of section 13267 of the California Water Code, or falsifying any information provided therein, is guilty of a misdemeanor.[d]

40. The discharger and/or any person who violates waste discharge requirement and/or who intentionally or negligently discharges waste, causes or permits waste to be deposited where it is discharged to waters of the state, may be liable for civil and/or criminal remedies, as appropriate, pursuant to the California Water Code.[d]

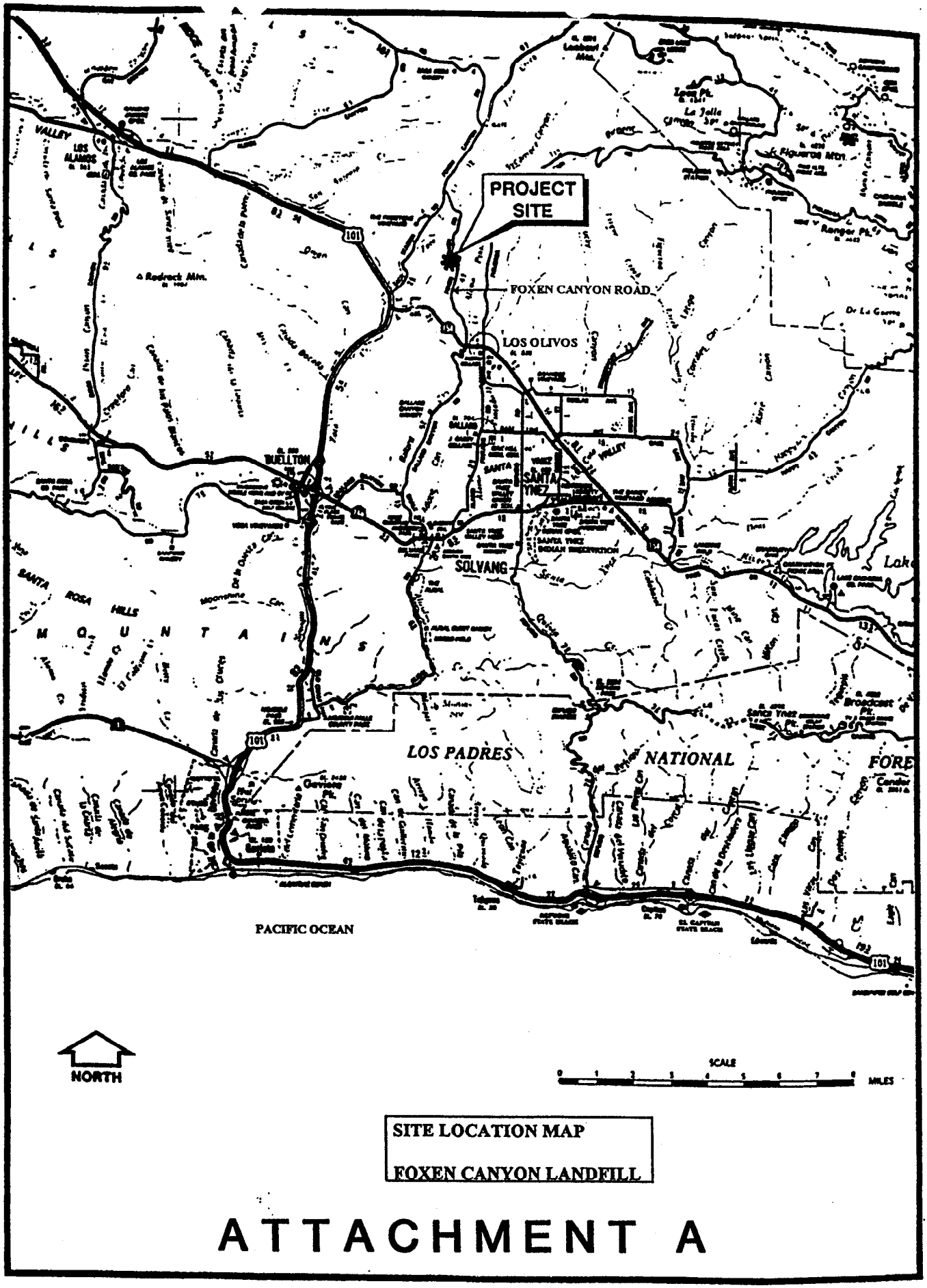
41. The Discharger shall comply with the following submittal and implementation schedule for all tasks and/or reports required by this order:

REPORT AND IMPLEMENTATION DATE SUMMARY

TASK	IMPLEMENTATION DATE
Runoff diversion and erosion prevention [Specification B.20.]	October 1, of each year
Minimum One foot cover over entire active Landfill [Specification B.29.]	October 1, of each year
Vegetation placement over entire Landfill area [Specification B.30.]	October 1, of each year
REPORT	DUE DATE
Wet Weather Preparedness Report [Provision D.34.]	November 1, of each year
Technical Compliance Report [Provision D.24.]	September 1, 1994
Load Checking Program [Provision D.28.]	September 1, 1994
Financial Assurance Agreement Documents [Provision D.36.]	September 1, 1994
Report of Monitoring Feasibility [Provision D.31.]	September 1, 1994
Long-Term Intermediate Cover Design Report [Provision D.32.]	September 1, 1994
Updated Closure Plan [Provision D.14.]	January 30, 1995 and yearly updates due January 30
Updated Master Plan [Provision D.30.]	September 1, 1994
Technical Report [Provision D.39.]	October 1,1998
Financial Assurance Report [Provision D.35.]	November 1, 1994 and updates due every five years
Liquid Mass Balance Report [Provision D.37.]	September 1, 1994

I, ROGER W. BRIGGS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on April 8, 1994.

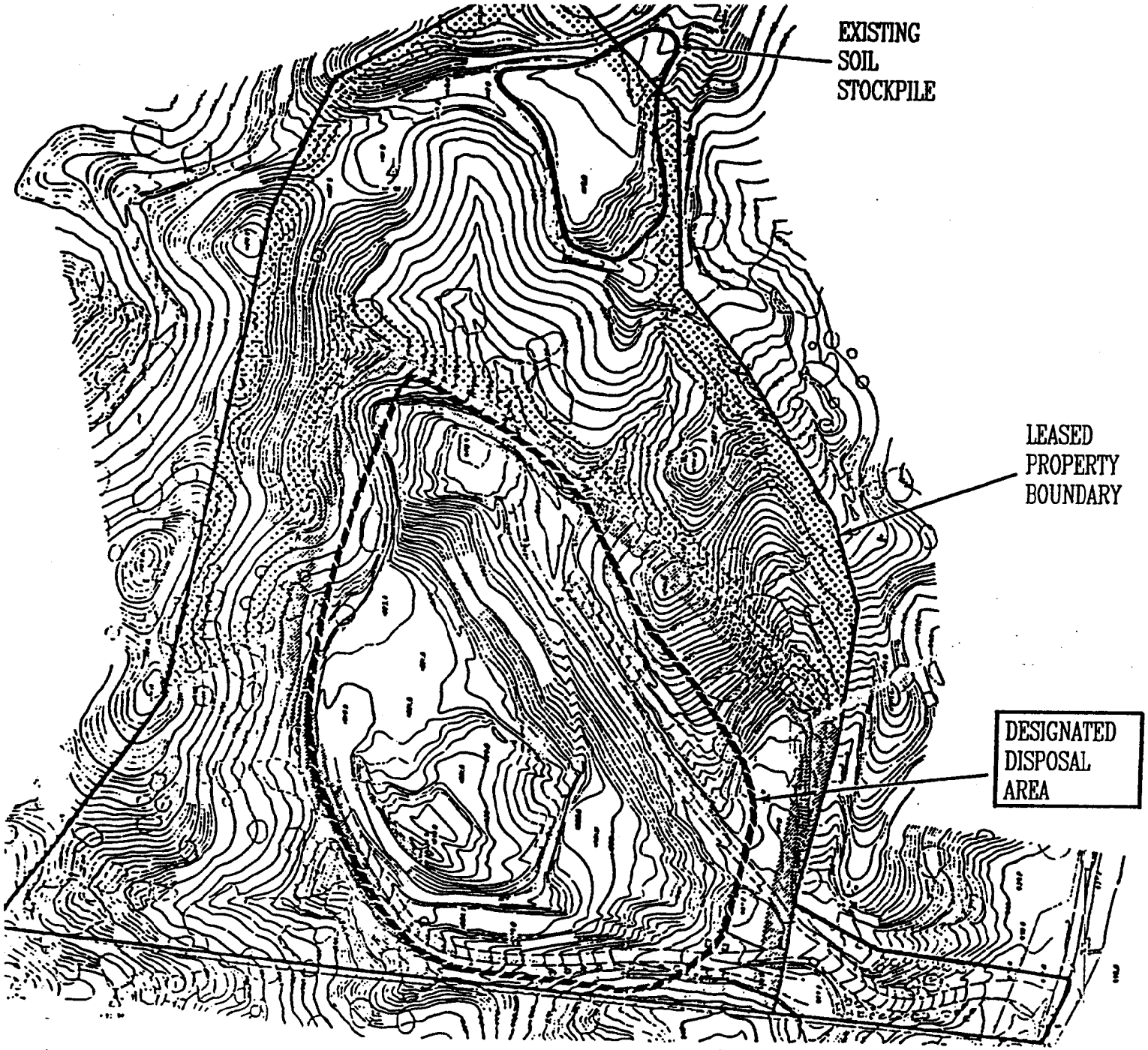
Executive Officer



SITE LOCATION MAP

FOXEN CANYON LANDFILL

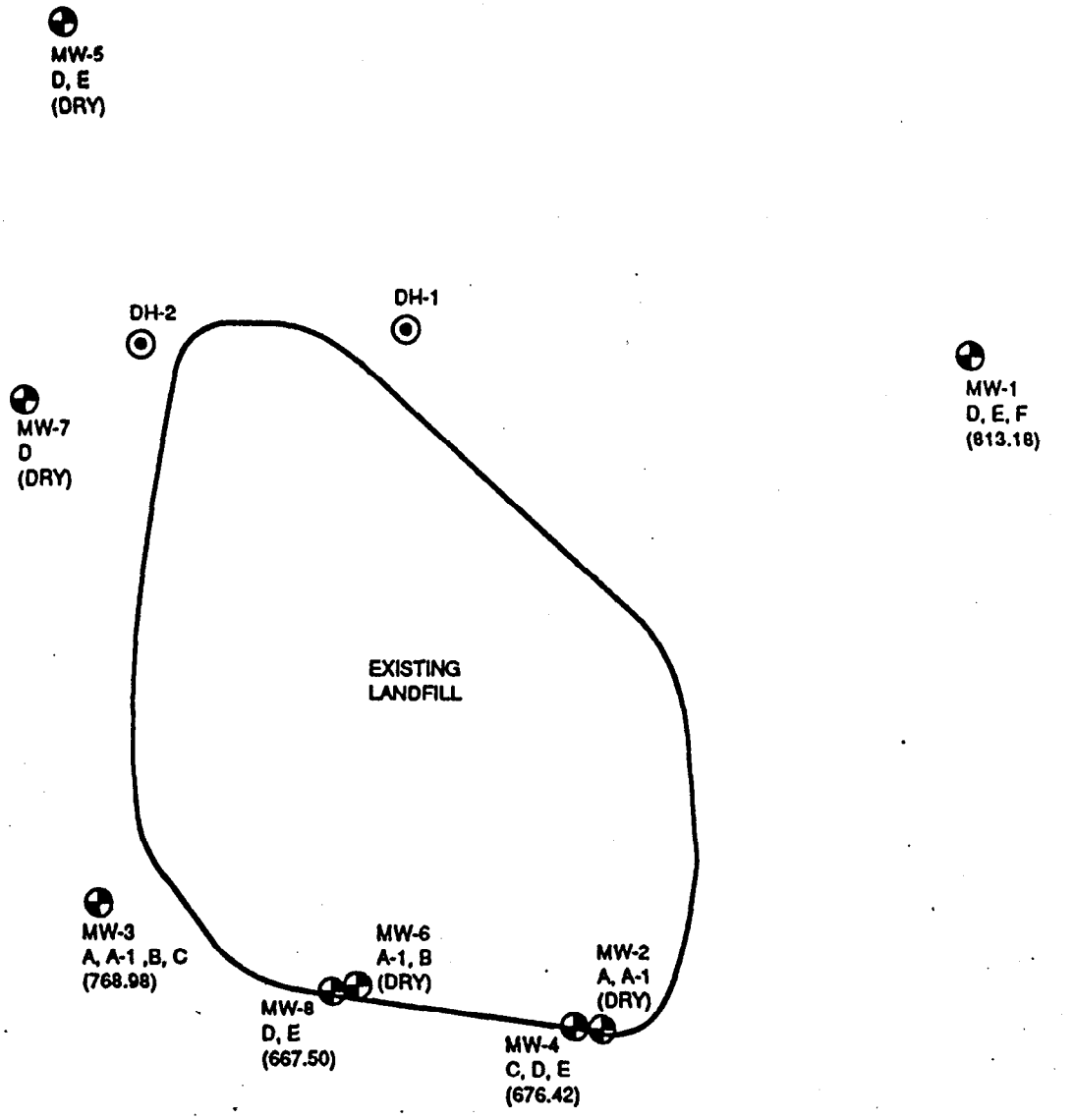
ATTACHMENT A



FOXEN CANYON

LANDFILL

ATTACHMENT B



SOURCE: EMCON, 1992

LEGEND

DH-1 Exploratory Boring

MW-1 Monitoring Well

D, E, F Stratigraphic Zones of Paso Robles Formation within Sand Pack Interval

(813.18) Groundwater Elevation (Feet above Mean Sea Level), Measured 10-11-91

NORTH

0 300

FEET

MONITORING WELL LOCATION MAP

ATTACHMENT C

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

MONITORING AND REPORTING PROGRAM NO. 94-32

FOR

SANTA BARBARA COUNTY PUBLIC WORKS AND THE CHAMBERLIN TRUST
FOXEN CANYON CLASS III LANDFILL
SANTA BARBARA COUNTY

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Part I: MONITORING AND OBSERVATION SCHEDULE

A. WASTE MONITORING -- **Report Twice Annually, as part of the Monitoring Report (Winter/Spring and Summer/Fall Reporting Periods end on June 30 and December 31, respectively).**

1. Record the total weight and/or volume of refuse, ash, sludge and other wastes [in cubic yards and/or tons] disposed of at the site during each Reporting Period, showing locations and dimensions on a sketch or map.

2. Record the type, volume, and nature of any waste refused; basis for refusal, name, address, and telephone number of hauler; date and time of log entry; and ultimate destination of refused waste, if known.

B. DRAINAGE SYSTEMS INSPECTIONS -- **Report Twice Annually, as part of the Monitoring Report. (Winter/Spring and Summer/Fall Reporting Periods end on June 30, and December 31, respectively)**

Drainage System Inspections. The Discharger shall inspect all drainage control systems monthly and following each storm event that results in storm water runoff or significantly increases on-going storm runoff. The report shall contain the following information:

1. Freeboard in stormwater containment structures;
2. Whether storm storage ponds and drainage ditches contain liquids;
3. Any apparent seeps from the basins;
4. General conditions of facilities; and
5. Steps taken to correct any problems found during inspection and dates when taken; and

C. ON-SITE OBSERVATIONS -- **Report Twice Annually, as part of the Monitoring Report (Winter/Spring and Summer/Fall Reporting Periods end on June 30 and December 31, respectively). Monthly inspections along the perimeter and within the Designated Disposal Area, consistent with the Standard Observations defined in Part III.B.5. of this MRP, are required. On-site observations and drainage system inspections may be combined if appropriate.**

D. WATER, LEACHATE AND SOIL PORE GAS SAMPLING/ANALYSIS FOR DETECTION AND CORRECTIVE ACTION MONITORING -- **Monitoring Parameter Report due Twice Annually, as part of the Monitoring Report (Winter/Spring and Summer/Fall Reporting Periods end on June 30 and December 31, respectively). Constituent of Concern Reports due every five years (details below):**

1. Thirty-Day Sample Procurement Limitation. For any given monitored medium, the samples taken from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given Reporting Period shall all be taken within a span not exceeding 30 days, and shall be taken in a manner that ensures sample independence to the greatest extent feasible [§2550.7(e)(12)(B) of Article 5]. Ground water sampling shall also include an accurate determination of the ground water surface elevation and field parameters [temperature, electrical conductivity, pH] for that Monitoring Point or Background Monitoring Point [§2550.7(e)(13)]; ground water elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the Spring, Summer, Winter, and Fall ground water flow rate/direction analyses required under **Part I.D.6.** Statistical or non-statistical analysis shall be carried out as soon as the data is available, in accordance with **Part II** of this program.

2. "Indirect Monitoring" for Monitoring Parameters Done Quarterly. For each monitored medium, all Monitoring Points assigned to Detection **[Part I.D.4., below]** and all Background Monitoring Points shall be monitored once each **Winter, Spring, Summer, and Fall** [Winter, Spring, Summer, and Fall Reporting Periods end on March 31,

June 30, September 30, and December 31, respectively]. All water, soil pore liquid and leachate samples shall be monitored for the following parameters:

Barium
Chloride
Nitrate
pH
Sodium
Sulfate
Total Dissolved Solids
Volatile Organic Constituents (EPA Method 8260)

All soil pore gas and landfill gas samples shall be monitored for the following parameters:

Methane
Volatile Organic Constituents
Carbon Dioxide

Monitoring for Monitoring Parameters shall be carried out in accordance with **Part I.D.1. and Part II** of this Program.

3. **"Direct Monitoring" of All Constituents of Concern Every Five Years.** In the absence of a release being indicated **(1)** pursuant to **Parts I.D.2. and II.A.3.** for a Monitoring Parameter, **(2)** based upon physical evidence pursuant to **Part III.D.2.c.**, or **(3)** by a study required by the Executive Officer based upon anomalies noted during visual inspection of graphically-depicted analytical data **[Part III.D.3.a.]**, the Discharger shall sample all Monitoring Points and Background Monitoring Points for water-bearing media -- not including soil pore gas -- for all Constituents of Concern listed in **Appendix II of CFR 40 part 258** every fifth year. Sampling shall begin with the year of adoption of this revised Order, with successive direct monitoring efforts being carried out alternately in the Spring of one year [Reporting Period ends March 31] and the Fall of the fifth year thereafter [Reporting Period ends September 30]. Direct monitoring for Constituents of Concern shall be carried out in accordance with **Parts I.D.1. and II.** of this Program, and shall encompass only those Constituents of Concern that do not also serve as a Monitoring Parameter.

4. **Monitoring Points and Background Monitoring Points For Each Monitored Medium:** The Discharger shall sample the following Monitoring Points and Background Monitoring Points in accordance with the sampling schedules given under **Parts I.D.2. and I.D.3.** [immediately foregoing], taking enough samples to qualify for the most appropriate test under **Part II**:

   a. **For ground water in the Paso Robles Aquifer: This aquifer is located beneath the Landfill.** The "Detection" Monitoring Points MW-3, MW-4, and MW-8 shall serve as Point of Compliance wells in the Paso Robles Aquifer.

   b. **For ground water in the Unconsolidated Quaternary (i.e., alluvium) aquifer: This aquifer is located southeast (downgradient) of the Landfill.** No wells are located in this aquifer.

   c. **For the unsaturated zone beneath and adjacent to the Landfill:** The unsaturated zone monitoring system is three downgradient monitoring points, LY-1 and LY-2.

   d. **For surface water in the Watershed:** The "Detection" Monitoring Point is southeast of the Landfill's toe where water exits a drainage outfall.

5. **Initial Background Determination:** For the purpose of establishing an initial pool of background data for each Constituent of Concern at each Background Monitoring Point in each monitored medium [§2550.7(e)(6)]:

   a. Whenever a new Constituent of Concern is added to the Water Quality Protection Standard, including any added by the adoption of this Order, the Discharger shall collect at least one sample quarterly for at least one year from each Background Monitoring Point in each monitored medium and analyze for the newly-added constituent(s); and

b. Whenever a new Background Monitoring Point is added, including any added by this Order, the Discharger shall sample it at **least quarterly for at least one year**, analyzing for all Constituents of Concern and Monitoring Parameters.

6. Quarterly Determination of Ground Water Flow Rate/Direction [§2550.7(e)(15) of Article 5]: The Discharger shall measure the water level in each well and determine ground water flow rate and direction in each ground water body described in Part I.D.4. at least quarterly. Water level measurements should be performed when the highest and lowest ground water elevations for the respective ground water body are expected. This information shall be included in the **Twice Annually** monitoring reports required under Part I.D.I.

Part II: STATISTICAL AND NON-STATISTICAL ANALYSIS OF SAMPLE DATA DURING A DETECTION AND CORRECTIVE ACTION MONITORING PROGRAM

A. The Discharger shall use the following methods to compare the downgradient concentration of each monitored constituent or parameter with its respective background concentration to determine if there has been a release from the Unit. For any given data set, proceed sequentially down the list of statistical analysis methods listed in **Part II.A.1.**, followed by the non-statistical method in **Part II.A.2.**, using the first method for which the data qualifies. If that analysis tentatively indicates the detection of a release, implement the retest procedure under **Part II.A.3.**

1. Statistical Methods. The Discharger shall use one of the following statistical methods to analyze Constituents of Concern or Monitoring Parameters which exhibit concentrations exceeding their respective the method detection level **[MDL]** in at least ten percent of the background samples taken during that Reporting Period. Except for pH, which uses a two-tailed approach, the statistical analysis for all constituents and parameters shall be one-tailed [testing only for statistically significant increase relative to background]:

a. One-Way Parametric Analysis of Variance (ANOVA), followed by multiple comparisons [§2550.7(e)(8)(A)]. This method requires at least four independent samples from each Monitoring Point and Background Monitoring Point during each sampling episode. It shall be used when the background data for the parameter or constituent, obtained during a given sampling period, has not more than 15% of the data below the practical quantification level **[PQL]**. Prior to analysis, replace all "trace" determinations with a value halfway between the PQL and the MDL values reported for that sample run, and replace all "non-detect" determinations with a value equal to half the MDL value reported for that sample run. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis [i.e., that there is no release] to be rejected at any Monitoring Point, the Discharger shall conclude that a release is tentatively indicated for that parameter or constituent;

b. One-Way Non-Parametric ANOVA (Kruskal-Wallis Test), followed by multiple comparisons. This method requires at least nine independent samples from each Monitoring Point and Background Monitoring Point; therefore, the Discharger shall anticipate the need for taking more than four samples per Monitoring Point, based upon past monitoring results. This method shall be used when the pooled background data for the parameter or constituent, obtained within a given sampling period, has not more than 50% of the data below the PQL. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at

any Monitoring Point, the Discharger shall conclude that a release is tentatively indicated for that parameter or constituent; or

c. Method of Proportions. This method shall be used if the "combined data set" -- the data from a given Monitoring Point in combination with the data from the Background Monitoring Points -- has between 50% and 90% of the data below the MDL for the constituent or parameter in question. This method (1) requires at least nine downgradient data points per Monitoring Point per Reporting Period, (2) requires at least thirty data points in the combined data set, and (3) requires that $n * P > 5$ [where n is the number of data points in the combined data set and P is the proportion of the combined set that exceeds the MDL]; therefore, the Discharger shall anticipate the number of samples required, based upon past monitoring results. The test shall be carried out at the 99% confidence level. If the analysis results in rejection of the Null Hypothesis [i.e., that there is no release], the Discharger shall conclude that a release is tentatively indicated for that constituent or parameter; or

d. SHEWART-CUSUM CONTROL CHART (proposed by the Discharger). This method involves intrawell comparisons. Six to eight historical data points are required in order to reliably determine the mean and standard deviation for each constituent's concentration in a given well. (Refer to the Discharger's June 30, 1992 Water Quality Control Program and Financial Assurance Cost Estimate for a complete description of the Shewart-CUSUM method); or

2. Non-Statistical Method. The Discharger shall use the following non-statistical method for the VOC_{water} and VOC_{spg} Composite Monitoring Parameters and for all Constituents of Concern which are not amenable to the statistical tests under **Part II.A.1.**; each of these groupings of constituents utilizes a separate variant of the test, as listed below. Regardless of the variant used, the method involves a two-step process: [1] from all constituents to which the variant applies, compile a list of those constituents which exceed their respective MDL in the downgradient sample, yet do so in less than ten percent of the applicable background samples; and [2] evaluate whether the listed constituents meet either of two possible triggering conditions. For each Monitoring Point, the list shall be compiled based on either (1) the data from the single sample [for that constituent] taken during that Reporting Period from that Monitoring Point, or (2) [where several independent samples have been analyzed for that constituent at a given Monitoring Point] from the sample which contains the largest number of constituents. Background shall be represented by the data from all samples taken from the appropriate Background Monitoring Points during that Reporting Period [at least one sample from each Background Monitoring Point]. The method shall be implemented as follows:

a. For the Volatile Organics Composite Monitoring Parameter For Water Samples [VOC_{water}]: For any given Monitoring Point, the VOC_{water} Monitoring Parameter is a composite parameter addressing all VOCs detectable using USEPA Methods 8260, including all unidentified peaks. Compile a list of each VOC which (1) exceeds its MDL in the Monitoring Point sample [an unidentified peak is compared to its presumed MDL], and also (2) exceeds its MDL in less than ten percent of the samples taken during that Reporting Period from that medium's Background Monitoring Points. The Discharger shall conclude that a release is tentatively indicated for the VOC_{water} Composite Monitoring Parameter if the list either (1) contains two or more constituents, or (2) contains one constituent that exceeds its PQL;

b. For the Volatile Organics Composite Monitoring Parameter For Soil Pore Gas Samples [VOC_{spg}]: The VOC_{spg} Monitoring Parameter is a composite parameter for soil pore gas addressing at least all 47 VOCs listed in Appendix I to

40 CFR 258, based upon either GC or GC/MS analysis of at least a ten liter sample of soil pore gas (e.g., collected in a vacuum canister). It involves the same scope of VOCs as does the VOC_{spg} Monitoring Parameter. Compile a list of each VOC which **(1)** exceeds its MDL in the Monitoring Point sample [an unidentified peak is compared to its presumed MDL], **and also (2)** exceeds its MDL in **less than** ten percent of the samples taken during that Reporting Period from the [soil-pore gas] Background Monitoring Points. The Discharger shall conclude that a release is tentatively indicated for the VOC_{spg} Composite Monitoring Parameter if the list **either (1)** contains two or more constituents, **or (2)** contains one constituent that exceeds its PQL; or

c. **For Constituents of Concern:** Compile a list of constituents that exceed their respective MDL at the Monitoring Point yet do so in less than ten percent of the background samples taken during that reporting period. The Discharger shall conclude that a release is tentatively indicated if the list **either (1)** contains two or more constituents, **or (2)** contains one constituent which exceeds its PQL.

3. **Discrete Retest [§2550.7(e)(8)(E) of Article 5].** In the event that the Discharger concludes that a release has been tentatively indicated **[under Parts II.A.1. or II.A.2.]**, the Discharger shall -- within 30 days of this indication -- collect two new suites of samples for the indicated Constituent(s) of Concern or Monitoring Parameter(s) at each indicating Monitoring Point, collecting at least as many samples per suite as were used for the initial test. Resampling of the Background Monitoring Points is optional. As soon as the data is available, the Discharger shall rerun the statistical method [or non-statistical comparison] separately upon each suite of retest data. For any indicated Monitoring Parameter or Constituent of Concern at an affected Monitoring Point, if the test results of either [or both] of the retest data suites confirms the original indication, the Discharger shall conclude that a release has been discovered. All retests shall be carried out only for the Monitoring Point(s) for which a release is tentatively indicated, and only for the Constituent of Concern or Monitoring Parameter which triggered the indication there, as follows:

a. If an ANOVA method was used, the retest shall involve only a repeat of the multiple comparison procedure, carried out separately on each of the two new suites of samples taken from the indicating Monitoring Point;

b. If the Method of Proportions statistical test was used, the retest shall consist of a full repeat of the statistical test for the indicated constituent or parameter, using the new sample suites from the indicating Monitoring Point;

c. If the Shewart-Cusum Control Chart Method was used, the retest shall consist of a full repeat of the statistical test for the indicated constituent or parameter, using the new sample suites from the indicating Monitoring Point;

d. **If the non-statistical method was used:**

1. Because the VOC Composite Monitoring Parameters [VOC_{water} or VOC_{spg}] each address, **as a single parameter,** an entire family of constituents which are likely to be present in any landfill release, the scope of the laboratory analysis for each retest sample shall include all VOCs detectable in that retest sample. Therefore, a confirming retest for either parameter shall have validated the original indication even if the suite of constituents in the confirming retest sample(s) differs from that in the sample which initiated the retest;

2. Because all Constituents of Concern that are jointly addressed in the non-statistical testing under **Part II.A.2.c.** remain as individual Constituents of Concern, the scope of the laboratory

analysis for the non-statistical retest samples shall be narrowed to involve only those constituents detected in the sample which initiated the retest.

B. Response to VOC Detection in Background

1. Except as indicated in **Part II.B.2.**, any time the laboratory analysis of a sample **from a Background Monitoring Point**, sampled for VOCs under **Part II.A.**, shows either **(1)** two or more VOCs above their respective MDL, **or (2)** one VOC above its respective PQL, **then** the Discharger shall immediately notify the Regional Board by phone that possible background contamination has occurred, shall follow up with written notification by certified mail within seven days, and shall obtain two new independent VOC samples from that Background Monitoring Point and send them for laboratory analysis of all detectable VOCs within thirty days. If either or both the new samples validates the presence of VOC(s) at that Background Monitoring Point, using the above procedure, the Discharger shall:

   a. immediately notify the Regional Board about the VOC(s) verified to be present at that Background Monitoring Point, and follow up with written notification submitted by certified mail within seven days of validation; and

   b. within 180 days of validation, submit a report -- acceptable to the Executive Officer -- which examines the possibility that the detected VOC(s) originated from the Unit and proposing appropriate changes to the monitoring program.

2. If the Executive Officer determines, after reviewing the report submitted under **Part II.B.1.b.**, that the VOC(s) detected originated from a source other than the Unit, the Executive Officer will make appropriate changes to the monitoring program.

3. If the Executive Officer determines, after reviewing the report submitted under **Part II.B.1.b.**, that the detected VOC(s) most likely originated from the Unit, the Discharger shall assume that a release has been detected and shall immediately begin carrying out the requirements of **Part III.D.2.d.**

PART III: SAMPLING

A. SAMPLING AND ANALYTICAL METHODS:

Sample collection, storage, and analysis shall be performed according to the most recent version of Standard USEPA Methods, and in accordance with an approved sampling and analysis plan. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. Specific methods of analysis must be identified. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Executive Officer prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements. In addition, the Discharger is responsible for seeing that the laboratory analysis of all samples from Monitoring Points and Background Monitoring Points meets the following restrictions:

1. The methods of analysis and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations [i.e., "trace" or "ND"] in data from Background Monitoring Points for that medium, the analytical method having the lowest "facility-specific method detection limit **[MDL]**" -- defined in **Part III.B.7.** -- shall be selected

from among those methods which would provide valid results in light of any "Matrix Effects" **[defined in Part III.B.6.]** involved.

2. **"Trace" results** -- results falling between the MDL and the facility-specific practical quantification limit **[PQL]** -- shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run and by an estimate of the constituent's concentration.

3. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with an estimate of the detection limit and quantitation limit actually achieved.

4. All QA/QC data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection limits, the recovery rates, an explanation for any recovery rate that is less than 80% or greater than 120%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery.

5. Upon receiving written approval from the Executive Officer, an alternative statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Reporting Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.

6. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

7. In cases where contaminants are detected in QA/QC samples [i.e., field, trip, or lab blanks], the accompanying sample results shall be appropriately flagged.

8. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result.

B. DEFINITIONS

1. The **"Monitored Media"** are those water- or gas-bearing media that are monitored pursuant to this Monitoring and Reporting Program. The Monitored Media may include: **(1)** ground water in the uppermost aquifer, in any other portion of the zone of saturation [§2601 of Chapter 15] in which it would be reasonable to anticipate that waste constituents migrating from the Unit could be detected, and in any perched zones underlying the Unit, **(2)** any bodies of surface water that could be measurably affected by a release, **(3)** soil pore liquid beneath and/or adjacent to the Unit, and **(4)** soil pore gas beneath and/or adjacent to the Unit.

2. The **"Constituents of Concern [COC]"** are those constituents which are likely to be in the waste in the Unit or which are likely to be derived from waste constituents, in the event of a release. The Constituents of Concern for this Unit are listed in **Section "Water Quality Protection Standard" C.1.a.** of this Order.

3. The **"Monitoring Parameters"** consist of a short list of constituents and parameters used for the majority of monitoring activity. The Monitoring Parameters for this Unit are listed in **I.D.2** of this Monitoring Program. Monitoring for the short list of Monitoring Parameters constitutes "indirect monitoring", in that the results are used to indirectly indicate the success or failure of adequate containment for the longer list of Constituents of Concern.

4. The **"Volatile Organics Composite Monitoring Parameter for Water [VOC_{water}]"** and the **"Volatile Organics Monitoring Parameter for Soil Pore Gas [VOC_{spg}]** are composite Monitoring Parameters addressing all volatile organic constituents detectable in a sample of water. [See **Part II.A.2.** of this Program for additional discussion of these Monitoring Parameters.]

5. **"Standard Observations"** refers to:

   a. For **Receiving Waters**:
      1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;
      2) Discoloration and turbidity: description of color, source, and size of affected area;
      3) Evidence of odors: presence or absence, characterization, source, and distance of travel from source;
      4) Evidence of beneficial use: presence of water-associated wildlife;
      5) Flow rate; and
      6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation;

   b. Along the **perimeter of the Unit**:
      1) Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate [show affected area on map];
      2) Evidence of odors: presence or absence, characterization, source, and distance of travel from source; and
      3) Evidence of erosion and/or of exposed refuse.

   c. **For the Unit:**
      1) Evidence of ponded water at any point on the waste management facility [show affected area on map];
      2) Evidence of odors: presence or absence, characterization, source, and distance of travel from source;
      3) Evidence of erosion and/or of daylighted refuse; and
      4) **"Standard Analysis and Measurements"**, which refers to:
         a) Turbidity [only for water samples], in NTU;
         b)Water elevation to the nearest 1/100th foot above mean sea level [only for ground water monitoring]; and
         c)

   Sampling and statistical/non-statistical analysis of the **Monitoring Parameters**.

6. **"Matrix Effect"** refers to any increase in the Method Detection Limit or Practical Quantitation Limit for a given constituent as a result of the presence of other constituents -- either of natural origin or introduced through a release -- that are present in the sample of water or soil-pore gas being analyzed.

7. **"Facility-Specific Method Detection Limit [MDL]"**, for a given analytical laboratory using a given analytical method to detect a given constituent [in spite of any Matrix Effect] **means** the lowest concentration at which the laboratory can regularly differentiate -- with 99% reliability -- between a sample which contains the constituent and one which does not.

8. **"Facility-Specific Practical Quantitation Limit [PQL]"**, for a given analytical laboratory using a given analytical method to determine the concentration of a given constituent [in spite of any Matrix Effect] **means** the lowest constituent concentration the laboratory can regularly quantify within specified limits of precision that are acceptable to the Regional Board Executive Officer.

9. **"Reporting Period"** means the duration separating the submittal of a given type of monitoring report from the time the next iteration of that report is scheduled for

submittal; therefore, the reporting period for analysis of all Constituents of Concern is five years, and for Monitoring Parameters it is three months ["**Winter**"=January 1 to March 31; "Spring"=April 1 to June 30; "**Summer**"=July 1 to September 30; and "**Fall**"=October 1 to December 31]. The Reporting Period for the Annual Summary Report extends from April 1 of the previous year to March 31 of the current year. The due date for any given report will be 30 days after the end of its Reporting Period, unless otherwise stated.

10. "**Receiving Waters**" refers to any surface water which actually or potentially receives surface or ground waters which pass over, through, or under waste materials or contaminated soils. In this case the Foxen Canyon Creek is considered the receiving waters.

11. "**Affected Persons**" refers to all individuals who either own or reside upon the land that directly overlies any part of that portion of a gas- or liquid-phase release that has migrated beyond the facility boundary.

12. "**Sludge**" refers to residual solids typically from water or wastewater treatment facilities. "**Dewatered Sludge**" refers to sludge with no free liquids and a moisture content of about 85% or less. "**Dried Sludge**" refers to sludge which less than 50% moisture. Treated wastewater sludge is also referred to as "**Biosolids.**"

C. RECORDS TO BE MAINTAINED

The Discharger shall maintain written reports for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and of the Monitoring Point or Background Monitoring Point from which it was taken, along with the identity of the individual who obtained the sample;

2. Date and time of sampling;

3. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

5. Calculation of results; and

6. Results of analyses, and the MDL and PQL for each analysis.

D. REPORTS TO BE FILED WITH THE BOARD

1. DETECTION MONITORING REPORTS

A written "**Detection Monitoring Report**" shall be submitted **Twice Annually [Part I.D.2.]**, in addition to an "**Annual Summary Report**" **[Part III.D.3.].** Every five years, the Discharger shall submit a report concerning the direct analysis of all Constituents of Concern as indicated in **Part I.D.3. ["COC Report"]**. All reports shall be submitted no later than one month following the end of their respective Reporting Period. The reports shall be comprised of at least the following:

a. **Letter of Transmittal**

A letter transmitting the essential points in each report shall accompany each report. Such a letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the Discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or above, or by his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the

discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct;

b. Each Monitoring Report and each COC Report shall include a compliance evaluation summary. The summary shall contain at least:

1. For each monitored ground water body, a description and graphical presentation of the velocity and direction of ground water flow under/around the Unit, based upon water level elevations taken during the collection of the water quality data submitted in the report;

2. Pre-Sampling Purge for Samples Obtained From Wells: For each monitoring well addressed by the report, a description of the method and time of water level measurement, of the type of pump used for purging and the placement of the pump in the well, and of the method of purging (the pumping rate, the equipment and methods used to monitor field pH, temperature, and conductivity during purging, the calibration of the field equipment, results of the pH, temperature, conductivity, and turbidity testing, the well recovery time, and the method of disposing of the purge water);

3. Sampling: For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump -- or other device -- used and its placement for sampling, and a detailed description of the sampling procedure [number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations];

4) Post-Sampling Purge [§2550.7(e)(12)(B)]: For each monitoring well addressed by the report, a description of how the well was purged to remove all portions of the water that was in the well bore while the sample was being taken or a description of how the well self purges.

c. A map or aerial photograph showing the locations of observation stations, Monitoring Points, and Background Monitoring Points;

d. For each Detection Monitoring Report and each COC Report, include laboratory statements of results of all analyses demonstrating compliance with **Part III.A.**;

e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities;

f. A summary and certification of completion of all Standard Observations **[Part III.B.5.]** for the Unit, for the perimeter of the Unit, and for the Receiving Waters; and

g. The quantity and types of wastes discharged and the locations in the Unit where waste has been placed since submittal of the last such report.

2. CONTINGENCY REPORTING

a. The Discharger shall report by telephone concerning any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within seven days, containing at least the following information:

1. A map showing the location(s) of seepage;

2. An estimate of the flow rate;

3. A description of the nature of the discharge (e.g., all pertinent observations and analyses); and

4. corrective measures underway or proposed.

b. Should the initial statistical comparison **[Part II.A.1.]** or non-statistical comparison **[Part II.A.2.]** indicate, for any Constituent of Concern or Monitoring Parameter, that a release is tentatively identified, the Discharger shall notify the Regional Board within one working day verbally as to the Monitoring Point(s) and constituent(s) or parameter(s) involved, shall provide written notification by certified mail within seven days of such determination [§2550.8(j)(1)], and shall carry out a discrete retest in accordance with **Parts I.D.1. and II.A.3.** If the retest confirms the existence of a release, the Discharger shall carry out the requirements of Part III.D.2.d. In any case, the Discharger shall inform the Regional Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven days of completing the retest.

c. If either the Discharger or the Regional Board determines that there is significant physical evidence of a release [§2550.1(3) of Article 5], the Discharger shall immediately notify the Regional Board of this fact by certified mail [or acknowledge the Regional Board's determination] and shall carry out the requirements of **Part III.D.2.d.** for all potentially-affected monitored media.

d. **If the Discharger concludes that a release has been discovered:**

1. If this conclusion is <u>not</u> based upon "direct monitoring" of the Constituents of Concern, pursuant to **Part I.D.3.**, then the Discharger shall, within thirty days, sample for all Constituents of Concern at all Monitoring Points and submit them for laboratory analysis. Within seven days of receiving the laboratory analytical results, the Discharger shall notify the Regional Board, by certified mail, of the concentration of all Constituents of Concern at each Monitoring Point. Because this scan is not to be tested against background, only a single datum is required for each Constituent of Concern at each Monitoring Point [§2550.8(k)(1)];

2. The Discharger shall, within 90 days of discovering the release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program meeting the requirements of §2550.8(k)(5) and §2550.9 of Article 5; and

3. The Discharger shall, within 180 days of discovering the release, submit a preliminary engineering feasibility study meeting the requirements of §2550.8(k)(6) of Article 5.

e. Any time the Discharger concludes -- or the Regional Board Executive Officer directs the Discharger to conclude -- that a liquid- or gaseous-phase release from the Unit has proceeded beyond the facility boundary, the Discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume **[see Affected Persons]**.

1. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release; and

2. Subsequent to initial notification, the Discharger shall provide updates to all Affected Persons -- including any newly Affected Persons -- within 14 days of concluding there has been any material change in the nature or extent of the release.

3. **ANNUAL SUMMARY REPORT**

The Discharger shall submit an annual report to the Board covering the previous monitoring year. The Reporting Period ends March 31. This report shall contain:

a. **A Graphical Presentation of Analytical Data [§2550.7(e)(14) of Article 5].** For each Monitoring Point and Background Monitoring Point, submit in graphical format the laboratory analytical data for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents over time for a given Monitoring Point or Background Monitoring Point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. On the basis of any aberrations noted in the plotted data, the Executive Officer may direct the Discharger to carry out a preliminary investigation [§2510(d)(2)], the results of which will determine whether or not a release is indicated;

b. All monitoring analytical data obtained during the previous two six-month Reporting Periods, presented in tabular form as well as on a diskettes, either in MS-DOS/ASCII format or in another file format acceptable to the Executive Officer. Data sets too large to fit on a single 360 K.B. diskette may be submitted on disk in a commonly available compressed format [e.g., PK-ZIP or NORTON BACKUP]. The Regional Board regards the submittal of data in hard copy and on diskette as "...the form necessary for..." statistical analysis [§2550.8(h)], in that this facilitates periodic review by the Board's statistical consultant;

c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements;

d. A map showing the area, if any, in which filling has been completed during the previous calendar year;

e. A written summary of the ground water and soil-pore gas analyses, indicating any changes made since the previous annual report; and

f. An evaluation of the effectiveness of the leachate monitoring/control facilities, pursuant to §2543(b,c,&d).

The Discharger shall implement the above monitoring program effective April 8, 1994.

ORDERED BY: _____
Executive Officer

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